

## ELECTRICAL PROJECT ENGINEER

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are not intended to reflect all duties performed within the job.*

### **DEFINITION**

To lead, oversee and participate in complex City building electrical remodeling and maintenance projects involving engineering design, planning, investigation and construction; to coordinate programs and projects with City architects, engineers of different disciplines and outside engineering consultants; to provide responsible staff assistance to the Building Services Manager and the City energy conservation committee.

### **DISTINGUISHING CHARACTERISTICS**

This is the journey level class in the professional electrical engineering series. This class is distinguished from the Engineering Associate-Electrical by the possession of a professional engineer license and several years of professional electrical engineering experience. Employees manage projects of varying sizes from conception to final installation, and provide technical direction and troubleshooting assistance to skilled trades employees performing the installation.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives direction from the Building Services Manager. Receives project direction from the Architectural Services Division.

Exercises limited technical supervision over other Building Services technical and supervisory staff.

**ESSENTIAL AND MARGINAL FUNCTION STATEMENTS**--*Essential and other important responsibilities and duties may include, but are not limited to, the following:*

#### **Essential Functions:**

1. Lead and oversee City building electrical construction, remodeling and maintenance projects; coordinate programs and projects with City architects, engineers, utility companies and outside engineering consultants.
2. Prepare electrical engineering designs, specifications, costs and quantity estimates for City building power and lighting system upgrading, expansion and renovation; prepare conditions of approval for building and public works projects including extensions for power services and new lighting systems; stamp electrical design plans and submit to the Building and Safety Department for the purpose of obtaining a permit before proceeding with the work.

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**Essential Functions:**

3. Propose, plan, prioritize, design, lead and oversee all City building energy reduction projects; conduct economic and engineering analyses and audits; monitor workflow, equipment quality and cost; coordinate with electrical power utility to monitor the energy reduction; prepare and retain detailed project documentation.
4. Identify, conduct comprehensive engineering studies and plan for capital improvement projects, including building power and lighting system expansion and upgrades.
5. Operate various engineering equipment including computer design, drafting and engineering calculation software; use common office software to prepare reports and communicate with other City employees.
6. Serve as a member of the City energy committee; provide recommendations and assistance to the committee regarding energy conservation policies and procedures.
7. Prepare requests for proposal and bid documents for contracted electrical engineering projects; participate in the coordination and review of consultants' designs; provide professional judgment and recommendations for electrical system design approval.
8. Exercise professional judgment in accordance with current accepted practices of electrical engineering and applicable laws, codes and regulations; interpret, apply, explain and enforce applicable laws, codes, regulations, policies and procedures.
9. Identify, review and approve plans, methods, materials, equipment and procedures with electrical field supervisor before and during construction to insure the work is in compliance with the design; assist in coordinating work among the carpentry, electrical, plumbing and air conditioning trades.
10. Coordinate with outside agencies, utility companies and other city departments to search for and evaluate new available technologies and products and to evaluate and plan future energy projects.
11. Respond to and resolve difficult customer inquiries regarding building electrical power and lighting issues; resolve difficult and complex regulatory and system design questions.
12. Prepare and maintain technical engineering records and drawings; prepare and maintain the City's files of as-built drawings; prepare complex and comprehensive reports.
13. Assist with the preparation of the work unit's budget; monitor expenses related to area of assignment.

**Marginal Functions:**

1. Perform related duties and responsibilities as required.
2. Attend and participate in professional group meetings; stay abreast of new trends and innovations in the field of electrical engineering.

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**QUALIFICATIONS**

**Knowledge of:**

Principles and practices of electrical engineering.  
Operational characteristics, services and activities of a comprehensive physical plant electrical engineering program.  
Terminology, principles, methods, practices and techniques used in technical electrical and energy engineering.  
Principles of mathematics as applied to electrical engineering.  
Recent developments, current literature and sources of information regarding electrical and energy engineering.  
Materials, tools and equipment used in electrical engineering.  
Techniques of developing, reviewing and modifying electrical engineering plans, designs and specifications.  
Automated engineering drafting software, such as Autocad.  
Pertinent federal, state and local laws, codes and regulations.  
Modern office procedures, methods and computer equipment and software.

**Ability to:**

Exercise professional engineering judgment to achieve results consistent with objectives.  
Work closely and cooperatively with Building Services supervisors and skilled trades employees in the planning and installation phases.  
Conduct technical research and solve multi-disciplinary engineering projects.  
Work with a high degree of independence, initiative and professional judgment.  
Analyze problems, identify alternative solutions, project consequences of proposed actions, recommend best options and implement approved solution in support of goals.  
Communicate clearly and concisely, both orally and in writing.  
Establish and maintain effective working relationships with those contacted in the course of work.  
Maintain effective audio-visual discrimination and perception needed for:

- *Making observations;*
- *Communicating with others;*
- *Reading and writing; and*
- *Operating assigned equipment.*

Maintain mental capacity which allows the capability of:

- *Making sound decisions;*
- *Effective interaction and communication with others; and*
- *Demonstrating intellectual capabilities.*

Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:

- *sitting for extended periods of time; and*
- *operating assigned equipment.*

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**Experience and Training Requirements**

**Experience:**

Three years of increasingly responsible professional (post-license) electrical engineering experience.

**Training:**

Equivalent to a bachelor's degree from an accredited college or university with major course work in electrical engineering or a closely related field.

**License or Certificate**

Possession of a professional electrical engineer license on the date of application, and possession of a professional electrical engineer license in the state of Nevada within 6 months of the date of appointment.

Possession of a Certified Lighting Efficiency Professional designation from the Association of Energy Engineers within 6 months of the date of appointment.

**WORKING CONDITIONS**

**Environmental Conditions:**

Office and field environments; exposure to computer screens; exposure to electrical energy.

**Physical Conditions:**

Essential and marginal functions may require maintaining physical condition necessary for sitting, standing and walking for prolonged periods of time.

ARB

NEW 12/30/99

FLSA: exempt; City: nonexempt

CSB 1/12/00